

# 1 overview

In this week, I have accomplished below task.

- 1) This week we have proposed two new ideas
- 2) On Wednesday, I discuss my ideas with prof. Wei Chen. After this discussion, according to prof. Wei Chen's advice, I chose the second idea, then improve this idea by combine the idea with curve approximate and PDE-NET theory. But this idea may have some different with Chen's opinion.
- 3) I discuss my ideas with Dr. Zhaosong. He advises me to finish the second idea firstly, then, if I have chance, maybe I could finish my first idea as the second paper.
- 4) Read a book of computer graphics, and some papers about map matching methods which use geography method.
- 5) Gone back to Hefei University and technology to present my ZJU researching experience

# 2 Paper reading

[1] A General Feature-based Map Matching Framework with Trajectory Simplification

两个贡献：1、引入了道路相关的特(根据司机的转弯规则建立了一个模型)征 2、引入了道路 key point 划分技术

[2] The Path Inference Filter: Model-Based Low-Latency Map Matching of Probe Vehicle Data  
一种通用的基于类 HMM 模型的地图匹配方法，该方法准确率较高，速度相对慢

[3] GIS-based Map-matching: Development and Demonstration of a Postprocessing Mapmatching Algorithm for Transportation Research

垃圾论文，利用平台工具实现地图匹配，创新点在工具的组合

[4] Fast online map matching for recovering travelling routes from low-sampling GPS data

利用回滚算法，纠正已进行地图匹配点的错误，以获得较高的匹配准确率

[5] Srinivasan, D., Cheu, R. L., & Tan, C. W. (2003). Development of an improved erp system using gps and ai techniques. In Proceedings of the intelligent transportation systems, 2003 (Vol. 1, pp. 554–559). IEEE.

点到路到修正

[6] Bouju, A., Stockus, A., Bertrand, F., & Boursier, P. (2002). Location-based spatial data management in navigation systems. In Intelligent vehicle symposium, 2002. IEEE (Vol. 1, pp. 172–177). IEEE.

[7] Yuan, Jing, et al. "An interactive-voting based map matching algorithm." Proceedings of the 2010 Eleventh International Conference on Mobile Data Management. IEEE Computer Society, 2010.

也是一种类似于 HMM 的算法，所不同的是它采用了投票机制

## 4 Work Schedule

Date	Tasks	Duration	Time cost
Mon. to Tues..	Discussion	9:10-22:00	4X10= 40 hours
Fri.	Thinking	8:50-18:00 20:00-22:00	10 hours
Sat.	Go back to HFUT	----	0 hours
Sun.	Thinking and Reading	15:10-20:00	4 hours

Total work time = 54 hours